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- (71) Applicant (*for all designated States except US*): **L'OREAL** [FR/FR]; 14, rue Royale, F-75008 Paris (FR).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **FERRARI, Véronique** [FR/FR]; 12, rue Saint-Georges, F-94700 Maisons-Alfort (FR). **JULIEN, Nathalie** [FR/FR]; 77, avenue de Ganay, F-91490 Milly la Foret (FR). **GUIL-LARD, Sylvie** [FR/FR]; 17, allée des Glaïeuls, F-93140 Bondy (FR).
- (74) Agent: **L'OREAL**; Boulard Denis - D.I.P.I., 25-29, quai Aulagnier, F-92600 Asnières (FR).
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(54) Title: COMPOSITION CONTAINING A SEMI-CRYSTALLINE POLYMER AND A POLYESTER OIL

(57) Abstract: The invention relates to a makeup composition comprising a) at least one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, the melting point of which is greater than or equal to 30 °C, b) a dyestuff, and c) an oil comprising at least two ester functions, or "polyester oil", the liquid fatty phase, the dyestuff, the polyester oil and the polymer forming a physiologically acceptable medium. This composition is in particular in the form of a stick that deposits a comfortable, glossy film on the keratin materials, especially on the lips. This composition has the advantage of having very good heat stability.

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**COMPOSITION CONTAINING A SEMI-CRYSTALLINE POLYMER AND A  
POLYESTER OIL**

The present invention relates to a  
5 composition, especially a cosmetic composition,  
containing at least one semi-crystalline polymer and an  
oil comprising at least two ester functions, referred  
to as a "polyester oil", which is especially in the  
form of a stick and which gives a comfortable, glossy  
10 deposit when applied.

The subject of the invention is a composition  
with improved heat stability. This composition also  
allows the application of a glossy, non-sticky, non-  
migrating film with good covering power onto keratin  
15 materials.

Patent application FR-A1-0001004 discloses  
the combination of a polyester oil and of a hetero  
atom-containing polymer of the polyamide type in wax-  
free lipstick compositions. That document does not  
20 teach that a polyester oil makes it possible to improve  
the heat stability of compositions on keratin  
materials.

Cosmetic compositions whose fatty phase is  
gelled with semi-crystalline polymers have been  
25 described in the as yet unpublished patent application  
FR 01/06047. The lipstick formulations derived from  
these inventions are in the form of a stick that  
deposits a glossy, non-sticky, covering film. These

compositions however have the drawback of being sensitive to temperature changes. This is reflected by poor stability when the sticks are applied at a temperature above room temperature. The stick tends to become crushed.

Patents US 5 736 125 and US 5 156 911, and also patent application WO 01/19333, illustrate certain types of semi-crystalline polymer that may be introduced into the composition of the formulations of the invention. However, these documents do not describe cosmetic compositions and do not suggest that the addition of a particular polyester oil can improve the stability of the compositions.

Surprisingly, the Applicant has found that the addition of a polyester oil to a composition containing a semi-crystalline polymer makes it possible to improve the heat stability of the composition.

The invention applies in particular to lip makeup products, but also to eye makeup products, for instance eyeliners, in particular in pencil form, and mascaras especially in cake form, or skin makeup products, for instance foundations.

According to a first embodiment, the composition of the invention is a makeup composition containing

a) at least one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, the melting point of which is greater than

or equal to 30°C, chosen from homopolymers and copolymers bearing at least one crystallizable side chain,

b) a dyestuff, and

5 c) a polyester oil,

the liquid fatty phase, the dyestuff, the polyester oil and the polymer forming a physiologically acceptable medium.

According to a second embodiment, the  
10 composition of the invention contains

a) a blend of at least one polymer chosen from low-melting polymers with a melting point of greater than 30°C and less than 50°C, and of at least one polymer chosen from high-melting polymers with a melting point

15 at least equal to 50°C,

b) a polyester oil,

the liquid fatty phase, the polyester oil and the polymer blend forming a physiologically acceptable medium.

20 For the purposes of the present invention, the term "polymers" means compounds containing at least two repeating units, preferably at least three repeating units and more especially at least ten repeating units.

25 For the purposes of the invention, the term "semi-crystalline polymer" means polymers comprising a crystallizable portion and an amorphous portion in the skeleton and having a first-order reversible change of

phase, in particular of melting (solid-liquid transition). The crystallizable portion is either a side chain (or pendent chain) or a block in the skeleton.

5                   The melting point of the semi-crystalline polymer is preferably less than 150°C.

                  When the crystallizable portion is a block of the polymer skeleton, this crystallizable block has a different chemical nature to that of the amorphous  
10 blocks; in this case, the semi-crystalline polymer is a block copolymer, for example of the diblock, triblock or multiblock type. When the crystallizable portion is a chain that is pendent on the skeleton, the semi-crystalline polymer may be a homopolymer or a  
15 copolymer.

                  The terms "organic compound" and "having an organic structure" mean compounds containing carbon atoms and hydrogen atoms, and possibly hetero atoms such as S, O, N or P, alone or in combination.

20                   The composition of the invention may be in the form of a paste, a solid or a cream. It may be an oil-in-water emulsion or a water-in-oil emulsion, or a solid or soft anhydrous gel. It is preferably in anhydrous form, and more especially in the form of an  
25 anhydrous gel, especially shaped as a stick or as a dish.

**Semi-crystalline polymers**

The semi-crystalline polymer(s) of the composition of the invention advantageously comprise a weight-average molecular mass  $M_w$  ranging from 5 000 to 1 000 000, preferably from 10 000 to 800 000 and  
5 preferentially from 15 000 to 500 000.

The semi-crystalline polymer(s) according to the invention serving as structuring agent are solids at room temperature (25°C) and atmospheric pressure (760 mmHg), with a melting point of greater than or  
10 equal to 30°C. The melting point values correspond to the melting point measured using a differential scanning calorimeter (DSC), such as the calorimeter sold under the name DSC 30 by the company Mettler, with a temperature rise of 5 or 10°C per minute (the melting  
15 point under consideration is the point corresponding to the temperature of the most endothermic peak of the thermogram).

The semi-crystalline polymer(s) according to the invention preferably have a melting point that is  
20 higher than the temperature of the keratinous support intended to receive the said composition, in particular the skin or the lips.

The semi-crystalline polymer(s) according to the invention is (are) capable, alone or as a mixture,  
25 of structuring the composition without the addition of a particular surfactant or of filler or of wax.

According to the invention, the semi-crystalline polymers are advantageously soluble in the

fatty phase, especially to at least 1% by weight, at a temperature that is higher than their melting point. Besides the crystallizable chains or blocks, the blocks of the polymers are amorphous.

5           For the purposes of the invention, the expression "crystallizable chain or block" means a chain or block which, if it were obtained alone, would change from the amorphous state to the crystalline state reversibly, depending on whether one is above or  
10 below the melting point. For the purposes of the invention, a "chain" is a group of atoms, which are pendent or lateral relative to the polymer skeleton. A "block" is a group of atoms belonging to the skeleton, this group constituting one of the repeating units of  
15 the polymer.

Preferably, the polymer skeleton of the semi-crystalline polymers is soluble in the liquid fatty phase.

Preferably, the crystallizable blocks or  
20 chains of the semi-crystalline polymers represent at least 30% of the total weight of each polymer and better still at least 40%. The semi-crystalline polymers containing crystallizable side chains are homopolymers or copolymers. The semi-crystalline  
25 polymers of the invention containing crystallizable blocks are block or multiblock polymers. They may be obtained by polymerizing a monomer containing reactive (or ethylenic) double bonds or by polycondensation.

When the polymers of the invention are polymers containing crystallizable side chains, these side chains are advantageously in random or statistical form.

5            Preferably, the semi-crystalline polymers of the invention are of synthetic origin. According to one embodiment, they do not comprise a polysaccharide skeleton.

          According to the second embodiment of the  
10 invention, the composition contains a blend of at least one polymer chosen from low-melting polymers with a melting point of greater than 30°C and less than 50°C, and of at least one polymer chosen from high-melting polymers with a melting point at least equal to 50°C.

15            In the context of the second embodiment of the invention, each of the semi-crystalline polymers of the polymer blend is advantageously independently chosen from:

- block copolymers of polyolefins of controlled  
20 crystallization, whose monomers are described in EP-A-0 951 897,
- polycondensates, especially of aliphatic or aromatic polyester type or of aliphatic/aromatic polyester type,
- 25 - homopolymers or copolymers bearing at least one crystallizable side chain and homopolymers or copolymers bearing in the skeleton at least one crystallizable block,



- homopolymers or copolymers bearing at least one crystallizable side chain, in particular bearing fluoro group(s),
- and mixtures thereof.

5           In the last two cases, the crystallizable side chain(s) or block(s) are hydrophobic.

          According to the first embodiment of the invention, the composition contains at least one liquid fatty phase structured with at least one semi-  
10 crystalline polymer having an organic structure, the melting point of which is greater than or equal to 30°C, chosen from homopolymers and copolymers bearing at least one crystallizable side chain.

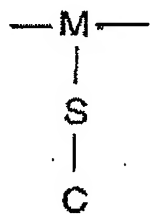
A) *Semi-crystalline polymers containing crystallizable*  
15 *side chains*

          Mention may be made in particular of those defined in documents US-A-5 156 911 and WO-A-01/19333.

          They are homopolymers or copolymers comprising from 50% to 100% by weight of units resulting from the  
20 polymerization of one or more monomers bearing a crystallizable hydrophobic side chain.

          These homopolymers or copolymers are of any nature, provided that they meet the conditions mentioned hereinbelow with, in particular, the  
25 characteristic of being soluble or dispersible in the liquid fatty phase, by heating above their melting point mp. They can result:

- from the polymerization, especially the free-radical polymerization, of one or more monomers containing reactive or ethylenic double bond(s) with respect to a polymerization, namely a vinyl, (meth)acrylic or allylic group,
  - from the polycondensation of one or more monomers bearing co-reactive groups (carboxylic acid, sulphonic acid, alcohol, amine or isocyanate), such as, for example, polyesters, polyurethanes, polyethers, polyureas or polyamides.
- a) In general, the crystallizable units (chains or blocks) of semi-crystalline polymers according to the invention are derived from monomer(s) containing crystallizable block(s) or chain(s), used for manufacturing semi-crystalline polymers. These polymers are chosen especially from homopolymers and copolymers resulting from the polymerization of at least one monomer containing crystallizable chain(s) that may be represented by formula X:



with M representing an atom of the polymer skeleton,  
 S representing a spacer and  
 C representing a crystallizable group

- The crystallizable chains "-S-C" may be aliphatic or aromatic, and optionally fluorinated or perfluorinated. "S" especially represents a group  $(\text{CH}_2)_n$  or  $(\text{CH}_2\text{CH}_2\text{O})_n$  or  $(\text{CH}_2\text{O})$ , which may be linear or branched

or cyclic, with n being an integer ranging from 0 to 22. Preferably, "S" is a linear group. Preferably, "S" and "C" are different.

When the crystallizable chains are

5 hydrocarbon-based aliphatic chains, they comprise hydrocarbon-based alkyl chains containing at least 11 carbon atoms and not more than 40 carbon atoms and better still not more than 24 carbon atoms. They are especially aliphatic chains or alkyl chains containing  
10 at least 12 carbon atoms, and they are preferably C<sub>14</sub>-C<sub>24</sub> alkyl chains, preferably C<sub>16</sub>-C<sub>22</sub>. When they are fluoroalkyl or perfluoroalkyl chains, they contain at least 11 carbon atoms, at least 6 of which carbon atoms are fluorinated.

15 As examples of semi-crystalline homopolymers or copolymers containing crystallizable chain(s), mention may be made of those resulting from the polymerization of one or more of the following monomers: (meth)acrylates of saturated alkyls with the  
20 alkyl group being C<sub>14</sub>-C<sub>24</sub>, perfluoroalkyl (meth)acrylates with a C<sub>11</sub>-C<sub>15</sub> perfluoroalkyl group, N-alkyl(meth)acrylamides with the alkyl group being C<sub>14</sub> to C<sub>24</sub> with or without a fluorine atom, vinyl esters containing alkyl or perfluoro(alkyl) chains with the alkyl group being  
25 C<sub>14</sub> to C<sub>24</sub> (with at least 6 fluorine atoms per perfluoroalkyl chain), vinyl ethers containing alkyl or perfluoro(alkyl) chains with the alkyl group being C<sub>14</sub> to C<sub>24</sub> and at least 6 fluorine atoms per perfluoroalkyl

chain, C<sub>14</sub> to C<sub>24</sub> alpha-olefins such as, for example, octadecene, para-alkylstyrenes with an alkyl group containing from 12 to 24 carbon atoms, and mixtures thereof.

5                   When the polymers result from a polycondensation, the hydrocarbon-based and/or fluorinated crystallizable chains as defined above are borne by a monomer that may be a diacid, a diol, a diamine or a diisocyanate.

10                   When the polymers that are the subject of the invention are copolymers, they additionally contain from 0 to 50% of groups Y or Z resulting from the copolymerization:

a) of Y which is a polar or non-polar monomer or a  
15. mixture of the two:

•       When Y is a polar monomer, it is either a monomer bearing polyoxyalkylenated groups (especially oxyethylenated and/or oxypropylenated groups), a hydroxyalkyl (meth)acrylate, for instance hydroxyethyl  
20 acrylate, (meth)acrylamide, an N-alkyl(meth)acrylamide, an N,N-dialkyl(meth)acrylamide such as, for example, N,N-diisopropylacrylamide or N-vinylpyrrolidone (NVP), N-vinylcaprolactam, a monomer bearing at least one carboxylic acid group; for instance (meth)acrylic acid,  
25 crotonic acid, itaconic acid, maleic acid or fumaric acid, or bearing a carboxylic acid anhydride group, for instance maleic anhydride, and mixtures thereof.

When Y is a non-polar monomer, it may be an ester of the linear, branched or cyclic alkyl (meth)acrylate type, a vinyl ester, an alkyl vinyl ether, an alpha-olefin, styrene or styrene substituted with a C<sub>1</sub> to C<sub>10</sub> alkyl group, for instance a-methylstyrene, or a macromonomer of the polyorganosiloxane type containing vinyl unsaturation.

For the purposes of the invention, the term "alkyl" means a saturated group especially of C<sub>8</sub> to C<sub>24</sub>, except where otherwise mentioned.

β) of Z which is a polar monomer or a mixture of polar monomers. In this case, Z has the same definition as the "polar Y" defined above.

Preferably, the semi-crystalline polymers containing a crystallizable side chain are alkyl (meth)acrylate or alkyl(meth)acrylamide homopolymers with an alkyl group as defined above, and especially of C<sub>14</sub>-C<sub>24</sub>, copolymers of these monomers with a hydrophilic monomer preferably of different nature from (meth)acrylic acid, for instance N-vinylpyrrolidone or hydroxyethyl (meth)acrylate, and mixtures thereof.

*B) Polymers bearing in the skeleton at least one crystallizable block*

This is also a case of polymers that are soluble or dispersible in the liquid fatty phase by heating above their melting point mp. These polymers are especially block copolymers consisting of at least

two blocks of different chemical nature, one of which is crystallizable.

- The polymers defined in patent US-A-5 156 911 may be used;

- 5 - Block copolymers of olefin or of cycloolefin containing a crystallizable chain, for instance those derived from the block polymerization of:
- . cyclobutene, cyclohexene, cyclooctene, norbornene (i.e. bicyclo(2,2,1)-2-heptene), 5-methylnorbornene, 5-  
10 ethylnorbornene, 5,6-dimethylnorbornene, 5,5,6-trimethylnorbornene, 5-ethylidenenorbornene, 5-phenylnorbornene, 5-benzylnorbornene, 5-vinylnorbornene, 1,4,5,8-dimethano-1,2,3,4,4a,5,8a-octahydronaphthalene, dicyclopentadiene, or mixtures  
15 thereof,
  - . with ethylene, propylene, 1-butene, 3-methyl-1-butene, 1-hexene, 4-methyl-1-pentene, 1-octene, 1-decene or 1-eicosene, or mixtures thereof,
  - . and in particular copoly(ethylene/norbornene)  
20 blocks and (ethylene/propylene/ethylidene-norbornene) block terpolymers. Those resulting from the block copolymerization of at least 2 C<sub>2</sub>-C<sub>16</sub>, better still C<sub>2</sub>-C<sub>12</sub> α-olefins such as those mentioned above and in particular block bipolymers of ethylene and of 1-octene  
25 may also be used.
- The copolymers may be copolymers containing at least one crystallizable block, the copolymer residue being amorphous (at room temperature). These copolymers

may also contain two crystallizable blocks of different chemical nature. The preferred copolymers are those that simultaneously contain at room temperature a crystallizable block and an amorphous block that are  
5 both hydrophobic and lipophilic, sequentially distributed; mention may be made, for example, of polymers containing one of the crystallizable blocks and one of the amorphous blocks below:

. Block that is crystallizable by nature: a)  
10 polyester, for instance poly(alkylene terephthalate)s,  
b) polyolefin, for instance polyethylenes or polypropylenes.

. Amorphous and lipophilic block, for instance:  
amorphous polyolefins or copoly(olefin)s such as  
15 poly(isobutylene), hydrogenated polybutadiene or hydrogenated poly(isoprene).

As examples of such copolymers containing a crystallizable block and an amorphous block, mention may be made of:

20 a) poly( $\epsilon$ -caprolactone)-b-poly(butadiene) block copolymers, preferably used hydrogenated, such as those described in the article D6 "Melting behavior of poly( $\epsilon$ -caprolactone)-block-polybutadiene copolymers" from S. Nojima, *Macromolecules*, 32, 3727-3734 (1999),  
25 b) the hydrogenated block or multiblock poly(butylene terephthalate)-b-poly(isoprene) block copolymers cited in the article D7 "Study of morphological and

mechanical properties of PP/PBT" by B. Boutevin et al.,  
Polymer Bulletin, 34, 117-123 (1995),  
γ) the poly(ethylene)-b-copoly(ethylene/propylene) block  
copolymers cited in the articles D8 "Morphology of  
5 semi-crystalline block copolymers of ethylene-  
(ethylene-alt-propylene)" by P. Rangarajan et al.,  
Macromolecules, 26, 4640-4645 (1993) and D9 "Polymer  
aggregates with crystalline cores: the system  
poly(ethylene)-poly(ethylene-propylene)" by P. Richter  
10 et al., Macromolecules, 30, 1053-1068 (1997),  
δ) the poly(ethylene)-b-poly(ethylene) block  
copolymers cited in the general article D10  
"Crystallization in block copolymers" by I.W. Hamley,  
Advances in Polymer Science, Vol. 148, 113-137 (1999).  
15           The semi-crystalline polymers in the  
composition of the invention may or may not be  
partially crosslinked, provided that the degree of  
crosslinking does not interfere with their dissolution  
or dispersion in the liquid fatty phase by heating  
20 above their melting point. It may then be a chemical  
crosslinking, by reaction with a multifunctional  
monomer during the polymerization. It may also be a  
physical crosslinking which may, in this case, be due  
either to the establishment of bonds of hydrogen or  
25 dipolar type between groups borne by the polymer, such  
as, for example, the dipolar interactions between  
carboxylate ionomers, these interactions being of small  
amount and borne by the polymer skeleton; or to a phase



separation between the crystallizable blocks and the amorphous blocks borne by the polymer.

Preferably, the semi-crystalline polymers in the composition according to the invention are non-  
5 crosslinked.

As specific examples of the structuring semi-crystalline polymer that may be used in the composition according to the invention, mention may be made of the products Intelimer® from the company Landec, described  
10 in the brochure "Intelimer® polymers", Landec IP22 (Rev. 4-97). These polymers are in solid form at room temperature (25°C). They bear crystallizable side chains and have the formula X above.

According to the second embodiment, the  
15 composition advantageously contains a blend of a polymer chosen from low-melting polymers with a melting point of greater than 30°C and less than 50°C, and of a polymer chosen from high-melting polymers with a melting point at least equal to 50°C.

20 In the description hereinbelow, the semi-crystalline polymer(s) with a melting point  $mp_2$  of greater than 30°C and less than 50°C will be referred to as "low-melting polymers" and the crystalline or semi-crystalline compound(s) with a melting point  $mp_1$  of  
25 greater than or equal to 50°C will be referred to as "high-melting compounds". According to the invention, the melting point may be measured especially by any

known method and in particular using a differential scanning calorimeter (DSC).

According to the invention, the high-melting semi-crystalline compound(s) is (are) advantageously  
5 polymers with a melting point  $mp_1$  such that  $50^{\circ}\text{C} \leq mp_1 \leq 150^{\circ}\text{C}$ , better still  $55^{\circ}\text{C} \leq mp_1 \leq 150^{\circ}\text{C}$ , and preferably  $60^{\circ}\text{C} \leq mp_1 \leq 130^{\circ}\text{C}$ , and the low-melting polymers advantageously have a melting point  $mp_2$  such that  $30^{\circ}\text{C} \leq mp_2 < 50^{\circ}\text{C}$  and better still  $35^{\circ}\text{C} \leq mp_2 \leq 45^{\circ}\text{C}$ . This  
10 melting point is a temperature of first-order change of state.

In general, the low-melting polymers have a melting point  $mp_2$  at least equal to the temperature of the keratinous support intended to receive the  
15 composition according to the invention.

As high-melting compounds that may be used in the invention, mention may be made of high-melting waxes, for instance certain polyethylene waxes such as Epolene N-14 sold by Eastman Chemical Co., carnauba  
20 waxes and certain microcrystalline waxes, for instance those sold by Tisco under the brand name "Tisco wax 88", and also high-melting semi-crystalline polymers. Preferably, the high-melting compound is a second high-melting organic solid semi-crystalline polymer.  
25 However, it is possible to use, as high-melting compounds, crystalline polymers that are solid at room temperature, having a melting point of greater than  $50^{\circ}\text{C}$  [lacuna] random polymers comprising a controlled

crystallization, as described in document EP-A-0 951 897, and more particularly the commercial products Engage 8 401 and Engage 8 402 from Dupont de Nemours, with melting points of 51°C and 64°C respectively, which are ethylene/1-octene random bipolymers.

i) The semi-crystalline polymers with a melting point of less than 50°C are especially those described in Examples 3, 4, 5, 7 and 9 of patent US-A-5 156 911, containing a -COOH group, resulting from the copolymerization of acrylic acid and of a C<sub>5</sub> to C<sub>18</sub> alkyl (meth)acrylate with a melting point ranging from 20°C to 35°C, and more particularly from the copolymerization:

- 15 . of acrylic acid, of hexadecyl acrylate and of isodecyl acrylate in a 1/16/3 ratio,
- . of acrylic acid and of pentadecyl acrylate in a 1/19 ratio,
- . of acrylic acid, of hexadecyl acrylate and of ethyl acrylate in a 2.5/76.5/20 ratio,
- 20 . of acrylic acid, of hexadecyl acrylate and of methyl acrylate in a 5/85/10 ratio,
- . of acrylic acid and of polyoctadecyl methacrylate in a 2.5/97.5 ratio.

25 It is also possible to use the polymer Structure "O" from National Starch, such as the product described in document US-A-5 736 125 with a melting point of 44°C, and also the semi-crystalline polymers

with crystallizable pendent chains comprising fluoro groups, as described in Examples 1, 4, 6, 7 and 8 of document WO-A-01/19333.

It is also possible to use the low-melting  
5 semi-crystalline polymers obtained by copolymerization of stearyl acrylate and of acrylic acid or of NVP, as described in document US-A-5 519 063 or EP-A-550 745 and more especially those described in Examples 1 and 2 below, of polymer preparation.

10 ii) The semi-crystalline polymers with a melting point of greater than or equal to 50°C are especially Intelimer described in the brochure "Intelimer® polymers", Landec IP22 (Rev. 4-97) with a melting point of 56°C, which is an impermeable, non-sticky product  
15 that is viscous at room temperature.

It is also possible to use semi-crystalline polymers obtained by copolymerization of behenyl acrylate and of acrylic acid or of NVP, as described in documents US-A-5 519 063 and EP-A-0 550 745, and more  
20 especially those described in Examples 3 and 4 below, for the preparation of polymers.

Preferably, the low-melting semi-crystalline polymers and/or those with a high melting point do not comprise a carboxylic group.

25 According to the invention and advantageously, the high-melting compound (crystalline or semi-crystalline) and the low-melting compound are in a weight ratio ranging from 10/90 to 90/10, better

still from 40/60 to 60/40 and more preferably in a weight ratio of close to 50/50.

Advantageously, the weight ratio of semi-crystalline polymer having an organic structure  
5 relative to the liquid fatty phase is from 0.20 to 0.60 and better still from 0.25 to 0.50, [lacuna] to obtain a hard stick that breaks down on contact with the skin or the lips, in particular having a hardness ranging from 100 to 350 gf.

10 The gelation of the fatty phase may be adjusted depending on the nature of the polymer(s) and their respective concentrations, and may be such that a rigid structure in the form of a tube or a stick is obtained.

15 The content of each polymer is chosen according to the desired hardness of the composition and as a function of the particular application intended. The respective amounts of polymer may be such that they allow the production of a solid that can be  
20 broken down, in particular having a hardness ranging from 100 to 350 gf. This hardness may be measured by the "cheese wire" method, which consists in cutting a tube of lipstick 12.7 mm in diameter and in measuring the hardness at 20°C, using a DFGHS 2 tensile testing  
25 machine from the company Indelco-Chatillon travelling at a speed of 100 mm/minute. It is expressed as the shear force (expressed as gramme-force) required to cut a stick under these conditions.

This hardness is such that the composition is self-supporting and can be broken down easily to form a satisfactory deposit on the skin and the lips. In addition, with this hardness, the composition of the invention in shaped form, especially in the form of a stick, shows good impact strength.

The composition of the invention is preferably in the form of a solid stick with a hardness ranging from 100 gf to 350 gf, measured according to the "cheese wire" method. However it is possible to use an amount of semi-crystalline polymer such that the composition is in the form of a soft paste that can be applied by finger or using an applicator onto keratin materials.

In practice, the total amount of semi-crystalline polymer(s) represents from 0.1% to 80%, better still from 0.5% to 40% and even better still from 3% to 30% of the total weight of the composition. It preferably represents from 15% to 25% by weight of the composition.

The tubes or sticks according to the invention produce, after application, a glossy, non-sticky deposit of uniform colour that gives good coverage (i.e. the skin or the lips do not show through the makeup).

#### **Polyester oil**

The polyester oil is a fatty substance that is liquid at room temperature (25°C) and atmospheric

pressure (760 mmHg), comprising at least two ester functions. It is preferably chosen from:

- hydrocarbon-based oils with a high content of triglycerides consisting of esters of fatty acids (of C<sub>4</sub> to C<sub>24</sub>) and of glycerol, in which the fatty acids may have varied chain lengths, these chains possibly being linear or branched, and saturated or unsaturated; these oils are, in particular glyceryl triheptanoate, glyceryl trioctanoate; wheat germ oil, corn oil, sunflower oil, shea butter, castor oil, sweet almond oil, macadamia oil, apricot oil, soybean oil, rapeseed oil, cotton oil, alfalfa oil, poppy oil, pumpkin oil, sesame oil, marrow oil, avocado oil, hazelnut oil, grapeseed oil, blackcurrant seed oil, evening primrose oil, millet oil, barley oil, quinoa oil, olive oil, rye oil, safflower oil, candlenut oil, passionflower oil and musk rose oil; or alternatively caprylic/capric acid triglycerides such as those sold by the company Stearineries Dubois or those sold under the names Miglyol 810, 812 and 818 by the company Dynamit Nobel;
- diisostearyl malate; triisocetyl citrate; tridecyl trimellitate;
- polyol esters, for instance propylene glycol dioctanoate, neopentyl glycol diheptanoate or diethylene glycol diisononanoate;
- pentaerythritol esters, for instance pentaerythrityl tetraisostearate;
- and mixtures thereof.

The polyester oil preferably represents from 5% to 30% by weight and preferably from 10% to 20% by weight of the composition.

The weight ratio of the polyester oil  
5 relative to the semi-crystalline polymer is advantageously between 0.2 and 1.1 and preferably between 0.4 and 0.9.

#### **Liquid fatty phase**

For the purposes of the patent application,  
10 the term "liquid fatty phase" means a fatty phase that is liquid at room temperature (25°C) and atmosphere pressure (760 mmHg), composed of one or more mutually compatible fatty substances that are liquid at room temperature, also known as oils. This fatty phase is  
15 macroscopically homogeneous.

Advantageously, the liquid fatty phase; structured with the semi-crystalline polymers, constitutes the continuous phase of the composition. This fatty phase may contain one or more apolar or non-  
20 polar oils or a mixture of apolar oil(s) and of polar oil(s), other than the polyester oil described above.

The apolar oils according to the invention are in particular silicone oils such as linear or cyclic polydimethylsiloxanes (PDMS), which are liquid  
25 at room temperature; polydimethylsiloxanes containing alkyl, alkoxy or phenyl groups, pendent and/or at the end of a silicone chain, these groups containing from 2 to 24 carbon atoms and being liquid at room



temperature; phenyl silicones, for instance phenyl trimethicones, phenyl dimethicones, phenyl trimethylsiloxo diphenylsiloxanes, diphenyl dimethicones, diphenyl methyl diphenyl trisiloxanes, and  
5 2-phenylethyl trimethylsiloxysilicates, which are liquid; linear or branched hydrocarbons or fluorocarbons of synthetic or mineral origin, which are liquid, for instance liquid paraffins and derivatives thereof, petroleum jelly, polydecenes, hydrogenated  
10 polyisobutene such as Parleam® sold by the company Nippon Oil Fats, and squalane; mixtures thereof. Preferably, the apolar oils used are apolar oils of the liquid hydrocarbon-based type, of mineral or synthetic origin, chosen especially from Parleam® oil  
15 (hydrogenated isoparaffin), isoparaffins and squalane, and mixtures thereof.

The liquid fatty phase advantageously contains at least one polar oil and at least one sparingly polar oil, for instance isononyl  
20 isononanoate.

In particular, the polar oils of the invention are:

- hydrocarbon-based plant oils with a high content of triglycerides consisting of fatty acid esters (of C<sub>8</sub>  
25 to C<sub>24</sub>) of glycerol in which the fatty acids may have varied chain lengths, these chains possibly being linear or branched, and saturated or unsaturated; these oils are, in particular, wheat germ oil, corn oil,

- sunflower oil, shea butter, castor oil, sweet almond oil, macadamia oil, apricot oil, soybean oil, rapeseed oil, cotton oil, alfalfa oil, poppy oil, pumpkin oil, sesame oil, marrow oil, avocado oil, hazelnut oil,
- 5 grapeseed oil, blackcurrant seed oil, evening primrose oil, millet oil, barley oil, quinoa oil, olive oil, rye oil, safflower oil, candlenut oil, passionflower oil and musk rose oil; or alternatively caprylic/capric acid triglycerides such as those sold by the company
- 10 Stearineries Dubois or those sold under the names Miglyol 810, 812 and 818 by the company Dynamit Nobel;
- synthetic oils of formula  $R_5COOR_6$  in which  $R_5$  represents a linear or branched superior fatty acid residue containing from 7 to 40 carbon atoms and  $R_6$
  - 15 represents a branched hydrocarbon-based chain containing from 3 to 40 carbon atoms, such as, for example, purcellin oil (cetostearyl octanoate), isononyl isononanoate and  $C_{12}$ - $C_{15}$  alkyl benzoate;
  - synthetic esters and ethers, for instance
  - 20 isopropyl myristate, 2-ethylhexyl palmitate, alcohol or polyalcohol octanoates, decanoates or ricinoleates, and hydroxylated esters, for instance isostearyl lactate or diisostearyl malate; and pentaerythritol esters;
  - fatty acids containing from 12 to 22 carbon atoms
  - 25 such as oleic acid, linoleic acid or linolenic acid;
  - mixtures thereof.

The liquid fatty phase represents, in practice, from 5% to 99% and preferably from 20% to 80%

of the total weight of the composition. It advantageously represents at least 60% of the total weight of the composition.

**Dyestuff**

5           The composition advantageously contains a dyestuff, which may be chosen from the lipophilic dyes, hydrophilic dyes, pigments and naces usually used in cosmetic or dermatological compositions, and mixtures thereof. This dyestuff is generally present in a  
10 proportion of from 0.01% to 50% (solids) and preferably from 5% to 30% of the total weight of the composition (if present).

          The liposoluble dyes are, for example, Sudan Red, D&C Red 17, D&C Green 6,  $\beta$ -carotene, soybean oil,  
15 Sudan Brown, D&C Yellow 11, D&C Violet 2, D&C Orange 5, quinoline yellow or methyl yellow. They can represent from 0% to 20% of the weight of the composition and better still from 0.01% to 6% (if present). The water-soluble dyes are, for example, beetroot juice or  
20 methylene blue, and can represent up to 6% of the total weight of the composition.

          The pigments may be white or coloured, mineral and/or organic, and coated or uncoated. Among the mineral pigments which may be mentioned are  
25 titanium dioxide or zinc dioxide, optionally surface-treated, zirconium oxide or cerium oxide, as well as iron oxide, chromium oxide, manganese violet, ultramarine blue, chromium hydrate and ferric blue.

Among the organic pigments which may be mentioned are carbon black, pigments of D&C type, and lakes based on cochineal carmine or on barium, strontium, calcium or aluminium (such as D & C Red 27, 21 or 7, D & C Yellow 5 or 6 and F D & C Blue No. 1). The pigments can represent from 0 to 40% (0.01% to 40%), especially from 0.5% to 35% and better still from 2% to 25% of the total weight of the composition (if present).

The nacreous pigments may be chosen from white nacreous pigments such as mica especially coated with titanium or with bismuth oxychloride, coloured nacreous pigments such as titanium mica with iron oxides, titanium mica with, in particular, ferric blue or chromium oxide, titanium mica with an organic pigment of the type mentioned above, as well as nacreous pigments based on bismuth oxychloride. They can represent from 0 to 25% (0.05% to 25%) and better still from 0.1% to 15% of the total weight of the composition (if present).

Advantageously, the pigments and nacles are introduced into the composition in the form of a pigmentary paste.

For the purposes of the invention, the term "pigmentary paste" means a concentrated colloidal dispersion of coated or uncoated coloured particles in a continuous medium, optionally stabilized using a dispersant.

Needless to say, a person skilled in the art will take care to select the optional additional additives and/or the amount thereof such that the advantageous properties of the composition according to the invention are not, or are not substantially, adversely affected by the envisaged addition.

The makeup composition of the invention may be in the form of a coloured product, in particular for the skin, optionally having care or treatment properties, and may be in particular a foundation, a blusher, a makeup rouge, an eyeshadow, a concealer product, an eyeliner or a body makeup product; a lip makeup product, for instance a lipstick, a lip gloss or a lip pencil, optionally with care or treatment properties; a makeup product for the integuments, for instance the nails, for the eyelashes in the form of a mascara, or for the eyebrows and the hair. It is preferably anhydrous and/or shaped, for example in cast form.

Needless to say, the composition of the invention must be cosmetically acceptable, i.e. it must contain a physiologically acceptable non-toxic medium and must be able to be applied to human skin, integuments or lips of the face. For the purposes of the invention, the expression "cosmetically acceptable" means a composition of pleasant appearance, odour, feel and, where appropriate, taste.

At least one wax such as those used to date in cosmetics may also be used in the composition of the invention.

For the purposes of the present invention, a  
5 wax is a lipophilic fatty compound that is solid at room temperature (25°C) and at atmospheric pressure (760 mmHg), which undergoes a reversible solid/liquid change of state, having a melting point of greater than 40°C and better still greater than 50°C, which may be  
10 up to 200°C, and having an anisotropic crystal organization in the solid state. The size of the crystals is such that the crystals diffract and/or scatter light, giving the composition a cloudy, more or less opaque appearance. By bringing the wax to its  
15 melting point, it is possible to make it miscible with oils and to form a microscopically homogeneous mixture, but, on returning the temperature of the mixture to room temperature, recrystallization of the wax in the oils of the mixture is obtained. It is this  
20 recrystallization in the mixture which may be responsible for the reduction in the gloss of the said mixture. Thus, the composition advantageously contains little or no standard waxes, especially less than 10% by weight and better still less than 5% by weight of  
25 standard wax relative to the total weight of the composition.

For the purposes of the application, the standard waxes are those generally used in cosmetics

and dermatology; they are especially of natural origin, for instance beeswax, candelilla wax, ouricury wax, Japan wax, cork fibre wax, sugar cane wax, paraffin wax, lignite wax, microcrystalline waxes with a melting point of greater than 50°C, lanolin wax, montan wax, ozokerites and hydrogenated oils such as hydrogenated jojoba oil, as well as waxes of synthetic origin, for instance polyethylene waxes derived from the polymerization of ethylene, waxes obtained by Fischer-Tropsch synthesis, with a melting point of greater than 50°C, fatty acid esters and glycerides that are solid at 50°C, and silicone waxes, for instance alkyl- and alkoxy-poly(di)methylsiloxanes and/or poly(di)methylsiloxane esters that are solid at 50°C.

Advantageously, the composition of the invention contains little or no "matting" fillers and in particular less than 5% of matting filler. This is especially the case when it is desired to obtain a glossy deposit on keratin materials such as the lips, the eyelashes and the hair. In contrast, fillers of this type may be used for a foundation. A matting filler is generally a filler that absorbs the skin's sweat and/or sebum, for instance silicas, talcs, clays, kaolins and polyamide powders (Nylon®).

The composition according to the invention may be manufactured by the known processes generally used in cosmetics.

A subject of the invention is also a cosmetic process for caring for, making up or treating human keratin materials and especially human skin, facial lips and integuments, comprising the application of the composition, especially the cosmetic composition as defined above, to the keratin materials.

A subject of the invention is also the use of an oil comprising at least two ester functions, in a makeup composition comprising a) at least one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, the melting point of which is greater than or equal to 30°C, and b) a dyestuff, the liquid fatty phase, the dyestuff, the polyester oil and the polymer forming a physiologically acceptable medium.

A subject of the invention is also the use of a sufficient amount of a polyester oil in a cosmetic composition containing a physiologically acceptable medium comprising a) at least one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, the melting point of which is greater than or equal to 30°C, and b) a dyestuff, as an agent for stabilizing the said composition, the said composition depositing a comfortable, glossy film on keratin materials, especially on the lips.

A subject of the invention is also the use of a polyester oil in a makeup composition containing a physiologically acceptable medium comprising at least



one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, to obtain a stable cosmetic composition.

The invention is illustrated in greater detail in the examples that follow. The amounts are given as percentages by mass.

**I) Examples of manufacture of semi-crystalline polymers**

**Example 1: Homopolymer with a melting point of 48°C**

120 g of Parleam are introduced into a 1 l reactor equipped with a central paddle stirrer, a condenser and a thermometer, and are heated from room temperature to 80°C over 45 minutes. At 80°C, the mixture C<sub>1</sub> below is introduced over 2 hours:

40 g of cyclohexane + 4 g of Trigonox 141 [2,5-bis(2-ethylhexanoylperoxy)-2,5-dimethylhexane].

30 minutes after the start of addition of the mixture C<sub>1</sub>, the mixture C<sub>2</sub> is introduced over 1 hour 30 minutes, this mixture consisting of:

200 g of stearyl acrylate + 400 g of cyclohexane.

At the end of the two additions, the mixture is stirred for a further 3 hours at 80°C and all of the cyclohexane present in the reaction medium is then distilled off at atmospheric pressure. The polymer at a concentration of 60% by weight of active material in the Parleam is thus obtained.

Its weight-average molecular mass is about 20 000-30 000 and its melting point  $T_m$  is 48°C, measured by DSC.

**Example 2: Copolymer with a melting point of 48°C**

5           The same procedure as in Example 1 is applied, except that a mixture of 10 g of N-vinylpyrrolidone and 190 g of stearyl acrylate is used.

          The polymer obtained is at a concentration of 60% by weight of active material in Parleam, its  
10 weight-average molecular mass is 43 000-53 000 and its  $T_m$  is 48°C.

**Example 3: Homopolymer with a melting point of 58°C**

          The same procedure as in Example 1 is applied, except that behenyl acrylate is used instead  
15 of stearyl acrylate. The polymer obtained is at a concentration of 60% by weight of active material in Parleam. Its weight-average molecular mass is 17 000-27 000 and its  $T_m$  is 58°C.

**Example 4: Copolymer with a melting point of 58°C**

20           The same procedure as in Example 2 is applied, except that behenyl acrylate is used instead of stearyl acrylate. The polymer obtained is at a concentration of 60% by weight of active material in Parleam®. Its weight-average molecular mass is 23 500-  
25 33 500 and its  $T_m$  is 58°C.

**II) Composition examples****Example 5: Lipstick formulation**

	Weight percentage
Octyldecanol	14.5
Diisostearyl malate	9.5
Polyhydroxystearic acid	2
Hydrogenated cocoglycerides	2
Low-melting polymer according to Example 1	11
High-melting polymer according to Example 3	11
Pigments	9
Filler	1
Nacre	3
Isononyl isononanoate	qs 100

**Example 6: Lipstick formulation**

	Low-melting polymer according to Example 1	11%
5	Low-melting polymer according to Example 3	11%
	Pigments	8.66%
	Hydrogenated isoparaffin	49.34%
	Solsperse 21 000	2%
	Diisostearyl malate	14.8%
10	Nylon	3%
	Fragrance	0.2%

This lipstick formulation, which contains  
 14.8% diisostearyl malate, which is a polyester-type  
 15 oil, is stable for 2 months at 47°C.

**Counterexample 6**

	Low-melting polymer according to Example 1	11%
	Low-melting polymer according to Example 3	11%
	Pigments	8.66%
5	Hydrogenated isoparaffin	49.34%
	Solsperse 21 000	2%
	Isononyl isononanoate	14.8%
	Nylon	3%
	Fragrance	0.2%

10

This lipstick formulation shows after 2 months at 47°C very slight shrinkage and also traces of running on the aspect of the sticks.

**Example 7**

15	Low-melting polymer according to Example 1	11%
	Low-melting polymer according to Example 3	11%
	Pigments	8.66%
	Hydrogenated isoparaffin	9.34%
	Solsperse 21 000	2%
20	Octyldodecanol	10%
	Diisostearyl malate	20%
	Squalane	22.80%
	Arachidyl propionate	2%
	Nylon	3%
25	Fragrance	0.2%

This lipstick formulation shows very good heat stability.

## CLAIMS

1. Makeup composition comprising:

- a) at least one liquid fatty phase structured with at  
5 least one semi-crystalline polymer having an organic  
structure, the melting point of which is greater than  
or equal to 30°C, and chosen from homopolymers and  
copolymers bearing at least one crystallizable side  
chain,  
10 b) a dyestuff, and  
c) a polyester oil comprising at least two ester  
functions,  
the liquid fatty phase, the dyestuff, the polyester oil  
and the polymer forming a physiologically acceptable  
15 medium.

2. Composition according to Claim 1,

- characterized in that the polyester oil is chosen from:  
- hydrocarbon-based oils with a high content of  
triglycerides consisting of esters of fatty acids (of C<sub>4</sub>  
20 to C<sub>24</sub>) and of glycerol, in which the fatty acids may  
have varied chain lengths, these chains possibly being  
linear or branched, and saturated or unsaturated; these  
oils are, in particular, glyceryl triheptanoate,  
glyceryl trioctanoate; wheat germ oil, corn oil,  
25 sunflower oil, shea butter, castor oil, sweet almond  
oil, macadamia oil, apricot oil, soybean oil, rapeseed  
oil, cotton oil, alfalfa oil, poppy oil, pumpkin oil,  
sesame oil, marrow oil, avocado oil, hazelnut oil,

- grapeseed oil, blackcurrant seed oil, evening primrose oil, millet oil, barley oil, quinoa oil, olive oil, rye oil, safflower oil, candlenut oil, passionflower oil and musk rose oil; or alternatively caprylic/capric acid triglycerides such as those sold by the company Stearineries Dubois or those sold under the names Miglyol 810, 812 and 818 by the company Dynamit Nobel;
- diisostearyl malate; triisocetyl citrate; tridecyl trimellitate;
- 10 - polyol esters, for instance propylene glycol dioctanoate, neopentyl glycol diheptanoate or diethylene glycol diisononanoate;
- pentaerythritol esters, for instance pentaerythrityl tetraisoate;
- 15 - and mixtures thereof.

3. Composition according to either of Claims 1 and 2, characterized in that the polyester oil is chosen from diisostearyl malate, triisocetyl citrate, tridecyl trimellitate and glyceryl triheptanoate, and mixtures thereof.

20

4. Composition according to one of the preceding claims, characterized in that the polyester oil represents from 5% to 30% by weight of the composition.

25 5. Composition according to one of the preceding claims, in which the polyester oil represents from 10% to 20% by weight of the composition.

6. Composition according to one of the preceding claims, characterized in that the weight ratio of the polyester oil relative to the semi-crystalline polymer is between 0.2 and 1.1 and  
5 preferably between 0.4 and 0.9.

7. Composition according to any one of the preceding claims, in which the semi-crystalline polymer has a weight-average molecular mass ranging from 5 000 to 1 000 000, preferably from 10 000 to 800 000 and  
10 preferentially from 15 000 to 500 000.

8. Composition according to any one of the preceding claims, characterized in that the semi-crystalline polymer is soluble in the liquid fatty phase at a temperature that is higher than its melting  
15 point.

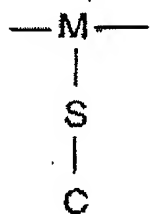
9. Composition according to one of the preceding claims, characterized in that the semi-crystalline polymer has a melting point that is higher than the temperature of the keratinous support intended  
20 to receive the said composition.

10. Composition according to the preceding claim, characterized in that the support intended to receive the composition is the skin or the lips.

11. Composition according to one of the  
25 preceding claims, characterized in that the semi-crystalline polymer is chosen from homopolymers and copolymers comprising from 50% to 100% by weight of units resulting from the polymerization of one or more

monomers bearing crystallizable hydrophobic side chain(s).

12. Composition according to one of the preceding claims, characterized in that the semi-crystalline polymer is chosen from homopolymers and copolymers resulting from the polymerization of at least one monomer containing crystallizable chain(s) of formula X:



with M representing an atom of the polymer skeleton,  
S representing a spacer and  
C representing a crystallizable group

and mixtures thereof with "S-C" representing an alkyl chain containing at least 11 carbon atoms, which is optionally fluorinated or perfluorinated.

13. Composition according to one of the preceding claims, characterized in that the semi-crystalline polymer is chosen from polymers resulting from the polymerization of at least one monomer chosen from acrylic acid, methacrylic acid, crotonic acid, itaconic acid, maleic acid and maleic anhydride, and mixtures thereof.

14. Composition according to one of the preceding claims, characterized in that the semi-crystalline polymer is chosen from homopolymers and copolymers resulting from the polymerization of at least one monomer with a crystallizable chain, chosen



from saturated C<sub>14</sub>-C<sub>24</sub> alkyl (meth)acrylates, C<sub>11</sub>-C<sub>15</sub>  
perfluoroalkyl (meth)acrylates, C<sub>14</sub> to C<sub>24</sub>  
N-alkyl(meth)acrylamides with or without a fluorine  
atom, vinyl esters containing C<sub>14</sub> to C<sub>24</sub> alkyl or  
5 perfluoroalkyl chains, vinyl ethers containing C<sub>14</sub> to C<sub>24</sub>  
alkyl or perfluoroalkyl chains, C<sub>14</sub> to C<sub>24</sub>  $\alpha$ -olefins, and  
para-alkylstyrenes with an alkyl group containing from  
12 to 24 carbon atoms, and mixtures thereof.

15                    15. Composition according to one of the  
10 preceding claims, characterized in that the semi-  
crystalline polymers are alkyl (meth)acrylate or  
alkyl(meth)acrylamide homopolymers with a C<sub>14</sub> to C<sub>24</sub>  
alkyl group, and copolymers of these monomers with a  
hydrophilic monomer.

15                    16. Composition according to one of the  
preceding claims, characterized in that the semi-  
crystalline polymers are copolymers of an alkyl  
(meth)acrylate or of an alkyl(meth)acrylamide with a C<sub>14</sub>  
to C<sub>24</sub> alkyl group, with a monomer of different nature  
20 from (meth)acrylic acid, for instance  
N-vinylpyrrolidone or hydroxyethyl (meth)acrylate, and  
mixtures thereof.

                    17. Composition according to one of the  
preceding claims, characterized in that the semi-  
25 crystalline polymer(s) represent(s) from 0.1% to 80% of  
the total weight of the composition, better still from  
0.5% to 40%, even better still from 3% to 30% and

preferably from 15% to 25% by weight of the composition.

18. Composition comprising:

- a) at least one liquid fatty phase structured with a  
5 blend of at least one polymer chosen from low-melting  
polymers with a melting point of less than 50°C, and of  
at least one polymer chosen from high-melting polymers  
with a melting point at least equal to 50°C,  
b) a polyester oil comprising at least two ester  
10 functions,  
the liquid fatty phase, the polyester oil and the  
polymer blend forming a physiologically acceptable  
medium.

19. Composition according to the preceding  
15 claim, characterized in that the high-melting polymer  
has a melting point  $mp_1$  such that  $55^{\circ}\text{C} \leq mp_1 \leq 150^{\circ}\text{C}$  and  
preferably  $60^{\circ}\text{C} \leq mp_1 \leq 130^{\circ}\text{C}$ .

20. Composition according to Claim 18 or 19,  
characterized in that the low-melting polymer has a  
20 melting point  $mp_2$  such that  $30^{\circ}\text{C} \leq mp_2 < 50^{\circ}\text{C}$ .

21. Composition according to one of Claims  
18 to 20, characterized in that the semi-crystalline  
polymer is a blend of a low-melting polymer with a  
melting point of less than 50°C, and of a high-melting  
25 polymer with a melting point at least equal to 50°C, in  
a weight ratio of between 90/10 and 10/90, preferably  
between 40/60 and 60/40 and more preferably in a weight  
ratio of close to 50/50.

22. Composition according to one of the preceding claims, characterized in that the fatty phase contains at least one polar oil and a sparingly polar oil.

5           23. Composition according to one of the preceding claims, characterized in that the weight ratio of the semi-crystalline polymer and of the liquid fatty phase is between 0.20 and 0.60 and preferably between 0.25 and 0.50.

10           24. Composition according to one of the preceding claims, characterized in that it contains less than 10% by weight of wax and/or less than 5% by weight of matting filler, relative to the total weight of the composition.

15           25. Composition according to one of the preceding claims, characterized in that the composition is in anhydrous form.

26. Composition according to any one of the preceding claims, characterized in that it is shaped.

20           27. Composition according to any one of the preceding claims, characterized in that it is in the form of a mascara, an eyeliner, a foundation, a lipstick, a deodorant, a body makeup product, an eyeshadow, a makeup rouge or a concealer product.

25           28. Composition according to Claim 26, characterized in that it is in the form of a solid stick with a hardness ranging from 100 to 350 gf.

29. Lipstick comprising a) at least one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, the melting point  $mp_1$  of which is such that  $55^{\circ}\text{C} \leq mp_1 \leq 150^{\circ}\text{C}$ , and at least one semi-crystalline polymer with an organic structure, the melting point  $mp_2$  of which is such that  $30^{\circ}\text{C} \leq mp_2 < 50^{\circ}\text{C}$ , b) a dyestuff, and c) a polyester oil.

30. Cosmetic makeup process comprising the application of the composition in accordance with one of Claims 1 to 28 to keratin materials.

31. Cosmetic use of a polyester oil in a makeup composition comprising at least one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, the melting point of which is greater than or equal to  $30^{\circ}\text{C}$ , and chosen from homopolymers and copolymers bearing at least one crystallizable side chain, the liquid fatty phase, the dyestuff, the polyester oil and the polymer forming a physiologically acceptable medium.

32. Cosmetic use of a sufficient amount of a polyester oil in a cosmetic composition comprising at least one liquid fatty phase structured with at least one semi-crystalline polymer having an organic structure, the melting point of which is greater than or equal to  $30^{\circ}\text{C}$ , and chosen from homopolymers and copolymers bearing at least one crystallizable side

chain, as an agent for heat-stabilizing the said composition, the said composition depositing a comfortable, glossy film on keratin materials, especially on the lips.